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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/484,432	01/18/2000	Muneki Ando	35.C14218	9693

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EXAMINER

ABDULSELAM, ABBAS I

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 04/09/2003

18

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/484,432

Applicant(s)

ANDO ET AL.

Examiner

Abbas I Abdulsalam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 61-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 61-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections U.S.C. 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 61-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gyouten et al. (USPN 6195077) in view of Fukuda et al. (USPN 5867593).

Regarding claims 61 and 66, Gyouten teaches a liquid crystal panel (101) with segment drive circuit (102), and side drive circuit (103) which is used for selecting sequentially to drive scanning lines. Gyouten teaches displaying images in a simple matrix type which displays an image with a pixel located at each intersections of the electrodes (X1, Y1), (X2, Y2), (X3, Y3).....(Xm, Yn). See column 11, lines 47-58, Fig 1 and Fig 39. Gyouten teaches an output control means for adjusting an amount of correction for the output voltage of the segment side circuit according to the distance between an arrangement position of the segment drive circuit and a position of scanning line selected by the side drive circuit in the liquid crystal panel. See column 1, lines 11-14, column 4, lines 42-47, and Fig 39. Moreover, Gyouten teaches correction clock generator circuit (70) in conjunction with the correction base clock for indicating the position

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where a correction period is to be provided, and the length of correction period is adjusted by the correction clock generator circuit. In addition, Gyouten teaches counter (72) changes in the outputs (B1, B2, B3) to high level ; and further teaches the display data stored in the line latch (123) of the drive circuit (102) that would be given to the liquid crystal drive output circuit (126). See column 1, lines 55-63 and Fig 41. Gyouten also teaches maintaining uniformity of luminance as well as the voltage waveforms with the correction voltage changes. See column 17, lines 30-33 , lines 49-65 and Fig 20. However, Gyouten does not teach a correction circuit such that the correction pulse is adjusted according to the difference between luminance of the signals for pixels that are adjacent to each other in the row direction. Fukuda on the other hand teaches gradient vector direction unit (16) and luminance level correction processing unit (14) including horizontal difference detector (9) calculating the difference value between the luminance levels of an arbitrary pixel and a pixel adjacent in the horizontal direction. See col. 6, lines 34-40 and Fig 1.

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify Gyouten's liquid crystal display panel to include Fukuda's luminance correction technique including horizontal difference detector. One would have been motivated in view of the suggestion in Fukuda that the luminance level correction process including the horizontal difference level is functionally equivalent to the desired adjustment based on the difference between luminance levels of adjacent pixels. The use of luminance level

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correction processing unit helps function a display system with image forming technique as taught by Fukuda.

Regarding claims 63 and 68-70, Gyouten teaches the pulse width modulator (203), and correction clock with modulator (204) which is supplied with reference correction clock signals. See Fig 29. Gyouten also teaches changing of the length of correction period. See column 16, lines 5-11 and Fig 14.

Regarding claims 62 and 67, Gyouten teaches the liquid crystal panel (101) with common electrodes, segment electrodes and liquid crystal layer interposed between electrodes. Column 2, lines 9-12. In addition, it is well known in the art and would be obvious to utilize a display panel composed of electron emission devices with a phosphor layer. Gyouten also teaches improving display in liquid crystal device apparatus. See column 1, lines 7-10

Regarding claims 64-65 Gyouten teaches amount of correction with respect to uniformly luminance waveforms. See column 17, lines 21-23 and Fig 18.

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Conclusion

2. The prior art made of record and not relied upon is considered to applicant's disclosure.

The following arts are cited for further reference.

U.S. pat. No. 5,943,094 to Sakai et al.

U.S. pat. No. 5,418,574 to Miyabata et al.

U.S. Pat. No. 4,626,898 to Baba et al.

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3. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand delivered responses should be brought to crustal park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.



RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Abbas Abdulsalam
Examiner
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